Hengji Li

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Research Interest

I am interested in topics related to *formal methods*, *computer graphics*, and *embodied intelligence*.

Education

Nanjing University *Sept 2022 – now*
Undergraduate *GPA:4.44/5.0 (17/105)*

Research Experience

NJU BigAI Group

- Completed online courses including *Coursera: Machine Learning* and *CS231n: Convolutional Neural Networks for Visual Recognition*.
- Read some papers on object detection and instance segmentation.
- Implemented and reproduced instance segmentation models (YOLOv8n-seg, YOLOv9c-seg, YOLO11n-seg) on the CarParts-Seg dataset.

Projects

OSLab

os-workbench

- Implemented a multiprocessor operating system kernel based on a simplified hardware abstraction layer, providing fundamental OS APIs to applications. Developed multiprocessor-safe memory allocation and reclamation (PMM) and kernel thread management (KMT), resulting in a time-sharing, preemptive multitasking *embedded operating system*.
- Tools Used: C , Makefile , Git

Programming Assignment

PA

- Implemented a simplified yet fully functional x86/MIPS32/RISCV32(64) emulator, NEMU (NJU EMUlator), and successfully ran the game *The Legend of Sword and Fairy* on NEMU, exploring the fundamental principles of how programs run on a computer.
- Tools Used: C , GDB , Makefile , Git

Selected Awards

- Scholarship for Undergraduates in Basic Science , Nanjing University *Nov 2024*
- Scholarship for Undergraduates in Basic Science , Nanjing University *Dec 2023*
- The People's Scholarship in China, Nanjing University *Dec 2024*
- The People's Scholarship in China, Nanjing University *Dec 2023*

Skills

- C/C++, Python, LaTeX, Markdown, Git